Johnston, though by slightly different details of reasoning. In any case, Wilson's designation of *Forestiera cassinoides* as the type species must be rejected. — LLOYD H. SHINNERS, SOUTHERN METHODIST UNIVERSITY, DALLAS, TEXAS.

ADDITIONAL NOTE ON VEGETATIVE REPRODUCTION IN CAREX TRIBULOIDES AND C. PROJECTA. — Late last June (1959) in Concord, Massachusetts, I collected specimens from an abundant colony of *Carex tribuloides* with many over-wintering prostrate culms bearing at the nodes roots and vigorous leafy shoots. They were growing near the bank of the Concord River in an undisturbed open portion of the Great Meadows. Later in the day, more than a mile upstream on the shady bank of the Assabet River, I collected two plants of *C. projecta* likewise with rooting vegetative shoots on culms of the previous year.

I had not previously encountered this phenomenon in *Carex*, but I do find a short note on the subject in RHODORA 47:39 (1945) by C. A. Weatherby. Although he discovered an incidental allusion by Theodor Holm in 1896 to the occasional development on *C. tribuloides* of transient axillary buds, he could find no other references to the matter. Weatherby appears to have been the first and only person to have called attention to occasional vegetative reproduction in these two closely related species of Carex. He, himself, had collected a specimen of *C. projecta* exhibiting this condition and had found ten others in the Gray Herbarium in addition to three of *C. tribuloides* (there are now six). He expressed surprise that a phenomenon so far from being rare should not have been alluded to in print, suggesting that the plethora of poorly collected specimens may be partly responsible. This may well be so. In my own case I did not notice any peculiarity about my specimens until I had dug them. If I had merely snatched a few culms, as so many collectors of a past generation had been contented to do, I would never have seen the tangle of viable over-wintering culms matted on the ground under the lush meadow vegetation.

To supplement Weatherby's count of pertinent material in

the Gray Herbarium I have examined all of the specimens of the two species in question in the herbarium of the New England Botanical Club. Many were hopelessly inadequate in that they were a meagre array of fruiting culms broken off above or at the base of the plant; none of these did nor could be expected to show the phenomenon even if it had been present on the growing plant. Here is the numerical summary:

	C. tribuloides	*C. projecta*
Total number of specimens examined	100	231
Less inadequate specimens	82	113
	18	118
Specimens with reproductive over-wintering culms	2	10

These data, although relatively scant, do reinforce Weatherby's remark that the phenomenon is by no means rare. It may not be irrelevant to remark that the much higher ratio of inadequate specimens of the more southern and (in New England) the less common *C. tribuloides* may be due to its generally ranker growth in successful competition with the lush growth of bottom land vegetation. It frequently occurs in very tough-rooted clumps, and probably is much harder to dig than *C. projecta*. Hence, the much lower frequency of vegetative reproduction in the former species than in the latter, as judged from the foregoing summary, may be more apparent than real.

Obviously, the ability of the sterile culms of these two sedges to survive over a winter depends not only on genetic factors but also on a favorable combination of ecological and weather conditions. Possibly, if the mature culms of the season are beaten down onto wet ground before serious alternate freezing and thawing conditions set in, they may be sufficiently protected during dormancy by dead vegetation, snow cover, or even by latewinter freshets. One would expect winter-hardiness to increase with a decrease in latitude. Hence, it may not be far-fetched to suggest that the frequency of reproductive over-wintering culms may prove to be higher in *C. tribuloides* than in *C. projecta*. — RICHARD J. EATON, LINCOLN, MASSACHUSETTS.

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